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XXXII.—*Three new Species of Ceriagrion from West Africa*
(Order Odonata). By HERBERT CAMPION.

As it stands at present, the genus *Ceriagrion* contains seven species, all but one of which have an exclusively Oriental distribution. Two of this number have been described during the present year, namely *C. fallax*, Ris, from South China (Entom. Mitteilungen, iii. p. 47, 1914), and *C. olivaceum*, Laidlaw, from Upper Burma (Rec. Ind. Mus. viii. p. 345, 1914). Isolated females are still difficult to determine, but the identification of the males of the five older species has been greatly facilitated by the publication of a very useful table by Dr. F. Ris (Abh. Senckenberg. Gesell. xxxiv. p. 519, 1913).

The only extra-Asiatic species made known so far is the African *C. glabrum*, Burm. This species occurs throughout the African continent, excepting the Mediterranean region, as well as in Madagascar, Mauritius, and the Seychelles. In general appearance there is a striking similarity between *C. glabrum* and *C. erubescens*, Selys, known from Siam, South China, Formosa, Malacca, Sumatra, Java, New Guinea, Aru, and North Australia. Indeed, Queensland specimens have been sometimes referred to under the name of *glabrum*; but examination in detail has shown that the two forms are really distinct from each other.

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Three species from West Africa which have come before me recently I now propose to describe as new. That from Southern Nigeria is represented by a single male which has been in the British Museum for several years. The remaining species were contained in collections received by the Imperial Bureau of Entomology, one from Dr. James J. Simpson while visiting Sierra Leone on behalf of the Bureau, and another from Mr. W. H. Patterson, the Government Entomologist in the Gold Coast.

The new species all exhibit the interesting structure, characterizing the genus, to which Dr. Ris has drawn attention in the first of the papers cited above (p. 45). This structure consists of a sharply-defined ridge crossing the frons transversely, just in front of the antennæ, and parallel with the more anterior ridge separating the anteclypeus from the postclypeus. The frons is thus divided into a horizontal portion lying on the summit of the head and a vertical anterior portion placed almost at a right angle with it.

The males of the four African species now under consideration may be tabulated thus:—

- I. The vein A* arising exactly at the level of the cubito-anal cross-vein. Two black teeth on the apical margin of segment 10, one on each side of the excision.
- A. Wings conspicuously yellow.
- a. Thorax rusty brown above; abdomen orange-red; largest species (abdomen 29·5–33 mm., hind wing circa 20 mm.) *glabrum*, Burm.
- II. The vein A* arising a little before the level of the cubito-anal cross-vein. Apical margin of segment 10 not toothed.
- B. Wings conspicuously yellow.
- b. Thorax dark greenish yellow above; abdomen for the most part pale lemon; species of intermediate size (abdomen 25·5 mm., hind wing 16·5 mm.) *citrinum*, sp. n.
- C. Wings entirely hyaline.
- c. Thorax dark green above; abdomen light red; species of intermediate size (abdomen 26 mm., hind wing 17 mm.) *corallinum*, sp. n.
- d. Thorax dark chocolate-brown above; abdomen crimson; smallest species (abdomen 24 mm., hind wing 15 mm.) *ignitum*, sp. n.

Ceriagrion citrinum, sp. n.

♂ adult (holotype).—Length of abdomen, including anal appendages, 25·5 mm.; length of hind wing 16·5 mm.

Labium, labrum, genæ, anteclypeus, and back of head yellow. Postclypeus, frons, and upper surface of head dark

greenish yellow. Antennæ yellow at base, then reddish brown. Prothorax dark greenish yellow. Upper surface of thorax proper also dark greenish yellow, with an antehumeral golden stripe, not reaching to the anterior margin of the thorax. (On the right side this antehumeral stripe is not well developed.) Sides and under surface of thorax pale greenish yellow. Legs yellow; spines and apex of tarsus and of claws black. Wings conspicuously yellow; reticulation for the most part reddish. Pterostigma greenish yellow, bounded by black nervures. Arculus in all wings a little distal to the second antenodal. A* in all wings originating a little before the level of the cubito-anal cross-vein. 10 postnodals in fore wings and 8 in hind wings. Abdomen: segments 1 to 5 and nearly the whole of 6 pale lemon; from the apex of segment 6 to the end of the abdomen reddish brown, tending to black on 8. Excision in the apical margin of 10 V-shaped, deep, reaching to about the middle of the segment. The upper anal appendages blackish, stout, pointed, curving abruptly downwards, and conspicuously shorter than the lower, which they touch. The lower appendages reddish brown; viewed in profile wide, longer than segment 10, directed upwards, produced into a black-tipped point above; in dorsal aspect conical, directed backwards.

In general appearance this species resembles *Ceriagrion coromandelianum*, Fabr., from India, but may be readily distinguished from it by its smaller size and the yellow coloration of the wings.

SOUTHERN NIGERIA: 1 ♂, Lagos (*Dr. H. Strachan*), British Museum, no. 99-165.

Ceriagrion corallinum, sp. n.

♂ adult (holotype).—Total length of abdomen 26 mm.; length of hind wing 17 mm.

Labium pale yellow. Labrum, anteclypeus, and anterior portion of frons greenish yellow. Genæ pale green. Postclypeus, posterior portion of frons, and superior surface of head reddish brown. Back of head ochraceous. Antennæ yellowish brown at base; the bristle black. Prothorax yellowish, variegated with greenish. Thorax: mid-dorsal carina dark green, with a rather broad stripe of golden yellow on each side; between this stripe and the humeral suture a broader band of dark green; sides of thorax pale green; under surface whitish. Legs brownish yellow; spines, apex of tarsi, and tips of claws black. Wings entirely

hyaline, with black veins. Arculus a little distal to the second antenodal. A* arising slightly proximal to the cubito-anal cross-vein. 11-12 postnodals in fore wings and 10 in hind wings. Pterostigma greenish brown, bounded by black nervures. Dorsum and sides of entire abdomen light red, a little darker on the terminal segments; under surface pinky yellow. Excision in apical margin of segment 10 wide, U-shaped rather than V-shaped, rather shallow. Anal appendages reddish; the upper ones somewhat shorter than the lower, stout, curved inwards and downwards; the lower appendages shorter than segment 10, broad laterally, curving gently upwards and backwards, and terminating in a rather long acute point above and a shorter blunter point below.

The antebumeral stripe of golden yellow, when present, varies a good deal in width in different individuals, and may be developed unequally on the two sides of the dorsal crest in the same specimen. Sometimes it is absent altogether, and the dorsum of the thorax may be of a more or less unicolorous brownish tint.

There is also a considerable amount of variation in the relation of the arculus to the second antenodal. This is the case even in the different wings of the same individual; but in the fore wings the arculus shows a greater tendency to migrate outwards than it does in the hind wings, where the coincidence with the second antenodal is occasionally exact.

Similarly, the point of separation of A* is far from being constant. Rarely, in hind wings, it coincides exactly with the cubito-anal cross-vein, but more commonly the longitudinal vein arises some little distance before the level of the cross-vein.

♀ (allotype).—Length of abdomen to apex of segment 5 16 mm. (remaining segments lost); length of hind wing 18 mm.

Mouth-parts and head coloured as in holotype. Prothorax dark brown. Dorsum of thorax greenish gold, with a narrow stripe of dark green on the mid-dorsal crest, and a similar stripe on each humeral suture; rest of thorax as in holotype. Legs as in holotype. Wings as in holotype, except that the arculus coincides with the second antenodal in all wings. 11 postnodals in fore wings and 10-11 in hind wings. Abdomen to end of segment 5 yellowish brown.

SIERRA LEONE: 1 ♂, Kamakoni, 22. iv. 1912; 1 ♀ (allotype), Rowerre, 28. iv. 1912; 3 ♂ (including holotype), Port Lokko, 1. v. 1912; 2 ♂, Port Lokko, 10. v. 1912; all collected by Dr. James J. Simpson.

BELGIAN CONGO: 1 ♂, 1 ♀, Dima, 25. ix. 1908, A.

Koller (Congo Museum, Tervueren, Brussels). I owe this record to the kindness of Dr. Ris, who has compared the Congo pair with Dr. Simpson's series from Sierra Leone, and found them to be identical.

Ceriagrion ignitum, sp. n.

♂ adult (holotype).—Length of abdomen (including anal appendages) 24 mm.; length of hind wing 15 mm.

Labium brownish white. Labrum and anteclypeus reddish brown. Postclypeus and frons above dark brown. Genæ and anterior portion of frons greenish. Antennæ, upper surface of head, prothorax, and most of thorax proper dark chocolate-brown, tending to copper colour in places. A broad golden-brown band below the humeral suture. Under surface of thorax and bases of legs with bluish-white pruinosity. Legs pale brown, with black spines and a little black on the tarsi and claws. Wings entirely hyaline; reticulation black. Arculus a little distal to the level of the second antenodal in all wings. A* separating at (hind wings) or a trifle before (fore wings) the level of the cubito-anal cross-vein. Postnodals 10–12 in fore wings, 9 in hind wings. Pterostigma greenish brown, paler round the edges. Segment 1 of abdomen yellowish; 2 to 6 crimson, passing to orange-red on segments 7 to 10; intersegmental sutures black; ventral surface for the most part orange-red. Apical margin of 10 not deeply excised, the emargination with a somewhat elevated border. Anal appendages brownish red, viewed in profile slightly convergent; the upper pair a little shorter than the lower, rather slender and sharply pointed, and curved inwards and downwards. Lower appendages about as long as segment 10, stout, curving inwards and upwards, and ending above in a long black claw.

Much like the male of the European *Pyrrhosoma tenellum*, Vill., but the abdomen is more richly coloured and the wings are narrower and more hyaline than in that species.

♀ adult (allotype).—Length of abdomen 22 mm.; length of hind wing 16 mm.

Labium yellowish. Labrum yellowish, with a trace of red. Genæ pale green. Anteclypeus, postclypeus, and anterior portion of frons dark green. Frons above, antennæ, prothorax, and upper surface of head dark chocolate-brown. Dorsum of thorax proper dark chocolate-brown, with an ill-defined golden-brown line on each side of the mid-dorsal crest. A broad golden-brown band below the humeral suture. Sides of thorax greenish. Under surface of thorax,

as well as the legs and wings, coloured as in ♂. Arculus at or a little distal to the second antenodal. A* separating at or a little before the level of the cubito-anal cross-vein. Postnodals 11 in fore wings, 10 in hind wings. Dorsum of abdomen dark brown, approaching to black on the terminal segments; intersegmental sutures black; sides of abdomen dark brown; venter black. Anal appendages about as long as segment 10, blackish, pointed. Palps of ovipositor black. This specimen has a strong supernumerary cross-vein in the right hind wing, traversing the space between A* and the posterior margin of the wing, about midway between the cubito-anal cross-vein and the first normal cross-vein.

The two paratype females differ somewhat from the allotype and from each other in details of coloration of the head and thorax, but the foregoing description will probably be sufficient to ensure the recognition of any further specimens which may be obtained.

The position of the arculus in relation to the second antenodal varies a good deal in the three males and three females examined. In some wings the arculus coincides very nearly with the antenodal, while in other wings it is placed well beyond it. A* is likewise variable in its point of origin, and may arise either at or conspicuously before the level of the cubito-anal cross-vein.

GOLD COAST: 3 ♂, numbered by the collector 625, 626, and 628 (holotype); 3 ♀, numbered 624, 627, and 629 (allotype), respectively: all from Aburi, 1912-13, Mr. W. H. Patterson.

The types of all the new species are in the British Museum (Natural History).

Most of the material discussed in this paper has been examined by Dr. Ris, to whose unfailing courtesy and kindness I am again indebted for much valuable advice.

XXXIII.—*A new Cinetus from New Guinea.*
By J. J. JOICEY, F.L.S., and A. NOAKES, F.E.S.

[Plate XIV.]

Charagia hamptoni.

Male.—Fore wings: ground-colour dark green, the whole wing being let in with xxx of a bright yellow at equal

distances between the veins; costal margin with brown triangular marks, the whole surface being covered with small black spots, and the fringe with a continuous row of the same.

Lower wings pale green, with indistinct yellow $\times \times \times$.

Abdomen green.

Expanse $6\frac{1}{2}$ inches.

Female.—Fore wings darker green than the male, the yellow $\times \times \times$ more indistinct; veins dark brown, with same-coloured spots placed zigzag along the whole length; costal margin with yellow and brown triangular marks; from the apex round to the base of thorax a row of bright silver $\times \times$, and from the costa to lower margin of wing four rows of larger silver $\times \times$.

Lower wing light brown, with a few indistinct silver $\times \times$ at apex.

Expanse 7 inches.

Hab. Angi Lakes, Arfak Mts., Dutch New Guinea, 6000 ft. (*Pratt*, Feb. 1914).

3 ♂ ♂ and 3 ♀ ♀ in the Joicey Coll.

XXXIV.—*On new Species of Histeridæ and Notices of others.*
By G. LEWIS, F.L.S.

[Plate XV.]

AS in the last paper published in February, I again give a Plate to facilitate the identification and call attention to a few peculiar forms. I have also introduced three more descriptions by other authors for aiding references. This paper is the forty-second of the series, which must necessarily be near the close.

The following species of the genus *Hister* have prosternal striæ, viz.:—*belti*, *criticus*, *defectus*, *gibberosus*, *indistinctus*, *lavimargo*, *meridanus*, *planimargo*, *sallei*, *servus*, and *striatipectus* of the New World, and *Hister sordidus* of Europe. I do not propose to include any of these species in *Grammostethus*, as the species of the latter genus are Oriental, and have, in addition to the prosternal striæ, several other notable characters, such as the rudimentary stria at the base of the fourth dorsal stria (*Ann. Mus. Civ. di Genova*, xxxii. p. 28, 1891). Dr. G. H. Horn has a note on the striation of the prosternum in the genus *Hister* (*Trans. Amer. Soc.* vii. p. 1,